

Remarks

In the office action mailed June 16, 2005, the examiner rejected claims 1-3 and 5-8, under 35 U.S.C. § 103(a) as being obvious over the combination of U.S. Patent No. 6,606,630 to Gunlock in view of U.S. Patent No. 6,615,284 to Schatzberg. The examiner rejected claims 23-25, 27-31, and 33-34 under 35 U.S.C. § 103(a) as being obvious over Gunlock in view of U.S. Patent No. 6,745,281 to Saegusa. The examiner further rejected claims 4, 9-22, 26, and 32 under 35 U.S.C. § 103(a) as being obvious over the combination of Gunlock and Schatzberg in view of the further combination of U.S. Patent No. 6,665,714 to Blumenau et al.

1. All Claim Elements Must be Taught or Disclosed by the Combined References

Applicants submit that a prima facie case of obviousness has not been established and that a rejection of the pending claims on obviousness grounds is improper. A prima facie case of obviousness requires a showing that all of the claim limitations of the rejected claims are taught or suggested by the prior art. Manual of Patent Examining Procedure 2143 and 2143.03. The establishment of a prima facie case of obviousness requires that *all* the claim limitations be taught or suggested by the prior art. MPEP 2143.01 (emphasis added). “All words of a claim must be considered in judging the patentability of that claim against the prior art.” *In re Wilson*, 424 F.2d 1382, 1385, 165 U.S.P.Q. 494, 496 (CCPA 1970). Here, because all of the elements of the independent claims are not taught or suggested by the prior art combination identified by the examiner (Gunlock, Saegusa, and Blumenau), a prima facie case of obviousness cannot be established and the rejection of these claims should be withdrawn.

2. Independent claim 1

The examiner has rejected claim 1 as being obvious over the combination of Gunlock and Schatzberg. Neither Gunlock nor Schatzberg discloses each of the elements of

independent claim 1. In particular, the examiner recognizes that Gunlock does not teach the element of limiting port logins to those target devices whose unique addresses appear on an address table. (*See* Office Action, page 3). Schatzberg does not cure this deficiency.

Independent claim 1, as amended, recites:

a unique hardware address table stored in a memory location accessible by each host bus adapter, wherein the unique hardware address table stores the unique hardware address of every target device that each respective host is authorized to access such that the host bus adapter for each respective host will not attempt to perform a port login with a target device unless the unique hardware address of that target device is present on the unique hardware address table as a target device that the respective host is authorized to access.

Hence, if a target device's unique hardware address is listed on the unique hardware address access table associated with a respective host, then the host bus adaptor for the respective host will proceed with a port login with that target device. However, if the target device's unique hardware address is not present on the unique hardware access table as being authorized for the respective host, then the host bus adaptor for the respective host will forego a port login with that target device. (Claim 1 and Specification, Page 7). Accordingly, the present invention will conserve the port login resources of a storage device by allowing, for each host, the host bus adaptor driver to perform a port login with a selected number of target devices rather than with all the target devices on the system. (Claim 1 and Specification, page 7).

In contrast, Schatzberg is directed to a method and system for retrieving large contiguous data whereby during storage, the data is divided and stored as segments in a number of different storage devices, where each storage device is coupled to a storage controller. (Schatzberg, Abstract). In response to a read request for a stored block of sequential data, an access request is generated to each of the storage devices on which segments of the data are

stored. (Col. 3, ll. 10-15). Each of the segments of the block of data is then retrieved from the corresponding storage device and the retrieved portions are assembled into the original block of data and transmitted to the requesting device as a block. (Col. 3, ll. 15-20). This method therefore speeds up the data transfer by allowing segments of the data block to be transmitted to the host controller from multiple storage devices at the same time (in parallel), rather than having the host controller wait for the whole block of data to be transferred from a single storage device, through a single bus. (Col. 6, ll. 47-53)

The examiner refers to the “device ID table” introduced in Schatzberg as disclosing the “unique hardware address table” of claim 1. Schatzberg discloses that each logical device has an associated device ID table which includes a plurality of track ID tables. (Col. 4, ll. 55-57). The logical tracks of data may be mapped contiguously onto the track ID table. (Col. 5, ll. 8-9). When an I/O request comes in, the Bus Controller uses the device ID table to find and retrieve the various segments of the data in order to assemble and transmit the data block requested. (Col. 5, ll. 17-24). As such, the ID tables disclosed in Schatzberg are merely a means for locating the segments of data which were stored across multiple storage devices. Stated otherwise, the Schatzberg ID table does not identify, for multiple hosts, which of the target devices the host is and is not authorized to access. Therefore, Schatzberg fails to disclose that which Gunlock lacks and therefore, claim 1 is patentable over the prior art.

It should also be recognized that amended claim 1, as amended, is directed to a storage area network that includes multiple hosts, and the hardware address table includes authorization information for each of the hosts. This feature of claim 1 is simply not shown by any combination of Gunlock and Schatzberg. The combination of Gunlock and Schatzberg does not disclose a storage area network in which a centralized table includes information concerning

which target devices each of the multiple hosts is authorized and is not authorized to access. Applicants respectfully submit that the rejection of claim 1 should be withdrawn.

4. Independent claims 9 and 16

The examiner has rejected claims 9 and 16 of the present application as being obvious over the combination of Gunlock, Schatzberg, and Blumenau. The combination of references, however, does not disclose a method in which a host bus adapter determines whether a port login may be issued with respect to a target device.

Claim 9 states that a unique hardware address table is “stored in a memory location associated with the host bus adapter” and that “the unique hardware address table contains the unique hardware addresses of each target device that the host is authorized to access.” Similarly, Claim 16 specifies that a set of available target devices are included in a unique hardware address table and that “the host bus adapter will not perform a port login with a target device unless the unique hardware address of the target device is present on the unique hardware address table.” Thus, the methods of claims 9 and 16 involve a host bus adapter that limits the issuance of port login commands to those target devices that are authorized for access by the host. The combination of Gunlock, Schatzberg, and Blumenau does not disclose this step or functionality.

The examiner once again relies on Schatzberg as teaching a unique hardware address of an available target device being present on a unique hardware address table stored in a memory location associated with the host bus adapter, wherein the unique hardware address table contains the unique hardware addresses of each target device that the host is authorized to access. As discussed above with reference to claim 1, Schatzberg is completely silent as to this

limitation. Because Gunlock, Schatzberg and Blumenau, taken individually or together, fail to disclose this limitation, claims 9 and 16 are in condition for allowance.

5. Independent claims 23 and 29

The examiner has rejected claims 23 (host bus adapter) and 29 (computer system) as being obvious over the combination of Gunlock and Saegusa. Neither Gunlock nor Saegusa discloses each of the elements of amended independent claims 23 and 29. In particular, the examiner recognizes that Gunlock does not teach the element of limiting the attempts for port logins to those target devices whose unique addresses appear on an address table. (*See Office Action*, page 5). Saegusa does not cure this deficiency.

Amended independent claims 23 and 29 recite “a unique hardware address access table in memory, operable to contain one or more unique hardware addresses corresponding to one or more target devices with which the host bus adapter is authorized to attempt to perform a port login.” The amendment clarifies that as disclosed in the specification, the present invention improves system efficiency by configuring the host bus adaptor drivers on a host to only issue a port login to a target device if the unique target address of that target device is included in the host bus adaptor driver’s unique hardware access table. Consequently, the hosts of a system in accordance with an embodiment of the present invention will not issue port logins to all the devices on the network.

Saegusa fails to disclose all limitations of amended independent claims 23 and 29. Saegusa discloses a system where the host issues port logins to every logical volume (*i.e.*, every target device) but the logical volumes have a “port controller” which checks the parameters in the port login frame against the contents of a “Local Access Right Management Table” (LARMT) and only allows a host to access the logical volume if the host is one designated by the LARMT.

Hence, unlike the present invention, the hosts in Saegusa do issue port logins to all the target devices, even though once the port logins get to the devices they may be rejected if the host is one that is not authorized to access the device.

Therefore, the cited references do not suggest or disclose a host bus adapter or a computer system having a memory for storing a hardware address table that includes a listing of target devices with which the host bus adapter is authorized to attempt to perform a port login. The host of Saegusa is free to issue port login commands without any reference to whether the host is authorized to issue port login commands to the particular target device. Therefore, Applicants respectfully submit that the rejection of claims 23 and 29 should be withdrawn

6. Claims 2-5, 7, 8, 10-15, 17-22, 24-28, and 30-34

Dependent claims 2-5, 7, 8, 10-15, 17-22, 24-28, and 30-34 will not be discussed individually herein, as each of these claims depends, either directly or indirectly, from an otherwise allowable base claim. Applicants submit that the rejection of claims 2-5, 7, 8, 10-15, 17-22, 24-28, and 30-34 should be withdrawn.

Conclusion

Applicants respectfully submit that pending claims 1-5 and 7-34 of the present invention are allowable. Applicants respectfully request that the rejection of these claims be withdrawn and that these claims be passed to issuance.

Respectfully submitted,



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